

What is claimed is:

1. A color management system to be connected with a plurality of output devices which execute color reproduction in accordance with image data, said color management system comprising:

means for obtaining a plurality of color reproduction regions from at least two output devices included in said plurality of output devices, said plurality of color reproduction regions corresponding to regions in color space where said at least two output devices can reproduce color, respectively;

means for generating a common color reproduction region included in any of said plurality of color reproduction regions; and

means for restricting range of color information included in image data to said common color reproduction region before said image data is handled.

2. The color management system of claim 1, wherein said at least two output devices are all of said plurality of output devices.

3. The color management system of claim 1, wherein said at least two output devices are devices which reproduce color through a specific process among said plurality of output devices.

4. The color management system of claim 3, wherein said devices which reproduce color through said specific process are displays.

5. The color management system of claim 3, wherein

said devices which reproduce color through said specific process are printers.

6. The color management system of claim 3, wherein

said means for obtaining said plurality of color reproduction regions and said

5 means for generating said common color reproduction region further generate another common color reproduction region related to at least two output devices which reproduce color through another specific process among said plurality of output devices, and

said color management system further comprising

means for converting color information included in said common color

10 reproduction region to color information included in said another common color reproduction region.

7. The color management system of claim 1, further comprising

means for mapping input image data on said common color reproduction

15 region.

8. The color management system of claim 1, wherein

said plurality of output devices are connected to a computer network.

9. The color management system of claim 1, further comprising

20 means for detecting an output device connected additionally and including said output device in said plurality of output devices.

10. The color management system of claim 1, wherein

25 said common color reproduction region is generated as a region in common

color space independent of said at least two output devices,

said means for restricting range of color information generates a profile for converting said region in said common color space to a region in color space for editing image data, and

5 said color management system handles said image data in said color space for editing.

11. The color management system of claim 10, wherein
said common color space is $L^*a^*b^*$ color space.

12. The color management system of claim 10, wherein
said common color space is XYZ color space.

13. The color management system of claim 10, wherein
said color space for editing is RGB color space.

14. The color management system of claim 1, wherein
said means for generating said common color reproduction region generates a maximum region included in any of said plurality of color reproduction regions as said
20 common color reproduction region.

15. The color management system of claim 1, wherein
said at least two output devices include both of an output device using RGB color space and an output device using CMY color space.

16. The color management system of claim 15, wherein
said output device using RGB color space is a display, and said output device
using CMY color space is a printer.

5 17. The color management system of claim 1, wherein
said means for generating said common color reproduction region approximates
said common color reproduction region to a polyhedron.

10 18. A color managing method performed on a color management system
connected with a plurality of output devices which execute color reproduction in
accordance with image data, said color managing method comprising the steps of:

15 a) obtaining a plurality of color reproduction regions from at least two output
devices included in said plurality of output devices, said plurality of color reproduction
regions corresponding to regions in color space where said at least two output devices can
reproduce color, respectively;

b) generating a common color reproduction region included in any of said
plurality of color reproduction regions; and

c) restricting range of color information included in image data to said common
color reproduction region before said image data is handled.

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19. The color managing method of claim 18, further comprising the step of

d) including an output device connected to said color management system
additionally in said plurality of output devices, and performing said steps a) to c).

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20. The color managing method of claim 18, wherein

said common color reproduction region is generated as a region in common color space independent of said at least two output devices, and

a profile for converting said region in said common color space to a region in color space for editing image data is generated in said step c),

5 said method further comprising the step of handling said image data in said color space for editing.

21. The color managing method of claim 20, wherein
said color space for editing is RGB color space.

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22. The color managing method of claim 18, wherein
a maximum region included in any of said plurality of color reproduction regions is generated as said common color reproduction region in said step b).

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23. The color managing method of claim 18, wherein
said at least two output devices include both of an output device using RGB color space and an output device using CMY color space.

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24. The color managing method of claim 23, wherein
said output device using RGB color space is a display, and said output device using CMY color space is a printer.

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25. A program product for color managing on a computer connected with a plurality of output devices which execute color reproduction in accordance with image data, wherein execution of said program product by said computer causes said computer

to perform a process comprising the steps of:

a) obtaining a plurality of color reproduction regions from at least two output devices included in said plurality of output devices, said plurality of color reproduction regions corresponding to regions in color space where said at least two output devices can reproduce color, respectively;

b) generating a common color reproduction region included in any of said plurality of color reproduction regions; and

c) restricting range of color information included in image data to said common color reproduction region before said image data is handled.

26. The program product of claim 25, wherein

said common color reproduction region is generated as a region in common color space independent of said at least two output devices, and

a profile for converting said region in said common color space to a region in color space for editing image data is generated in said step c),

said process further comprising the step of handling said image data in said color space for editing.

27. The program product of claim 26, wherein

said color space for editing is RGB color space.

28. The program product of claim 25, wherein

a maximum region included in any of said plurality of color reproduction regions is generated as said common color reproduction region in said step b).

29. The program product of claim 25, wherein

said at least two output devices include both of an output device using RGB color space and an output device using CMY color space.

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30. The program product of claim 29, wherein

said output device using RGB color space is a display, and said output device using CMY color space is a printer.

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31. A color management system to be connected with a plurality of output devices which execute color reproduction in accordance with image data, said color management system comprising:

a memory in which a program is stored; and

a processor performing a process in accordance with said program stored in said memory, said process comprising the steps of:

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a) obtaining a plurality of color reproduction regions from at least two output devices included in said plurality of output devices, said plurality of color reproduction regions corresponding to regions in color space where said at least two output devices can reproduce color, respectively;

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b) generating a common color reproduction region included in any of said plurality of color reproduction regions; and

c) restricting range of color information included in image data to said common color reproduction region before said image data is handled.

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32. The color management system of claim 31, wherein

said common color reproduction region is generated as a region in common

color space independent of said at least two output devices, and

a profile for converting said region in said common color space to a region in color space for editing image data is generated in said step c),

5 said process further comprising the step of handling said image data in said color space for editing.

33. The color management system of claim 32, wherein
said color space for editing is RGB color space.

10 34. The color management system of claim 31, wherein
a maximum region included in any of said plurality of color reproduction regions is generated as said common color reproduction region in said step b).

15 35. The color management system of claim 31, wherein
said at least two output devices include both of an output device using RGB color space and an output device using CMY color space.

20 36. The color management system of claim 35, wherein
said output device using RGB color space is a display, and said output device using CMY color space is a printer.